CLAIMS

1. An expandable stinger planter, comprising:

a stinger mounting frame;

a stinger comprised of a pair of elongated probes mounted to the stinger mounting frame and extending to bottom ends configured for ground penetration;

an actuator assembly on the stinger mounting frame and connected to at least one of the probes to shift the bottom ends relative to one another between a closed position wherein the bottom ends are at least substantially closed together, and an open position wherein the bottom ends are opened and form a plant discharge opening;

an internal plant receiving receptacle within the probes that is open to the plant discharge opening;

a plant magazine on the stinger mounting frame configured to receive and organize a plurality of plants in a prescribed array;

wherein the plant magazine includes at least one plant release station, through which successive plants may be discharged into the plant receiving receptacle; and

a plant feeder adjacent the plant magazine and operable to move a plant in the plant magazine to the plant release station;

wherein the plant magazine and plant release station are positioned above the plant receiving receptacle such that a plant moved to the plant

release station may drop into the plant receiving receptacle, to be discharged from the plant receiving receptacle through the plant discharge opening.

2. An expandable stinger planter as defined by claim 1, wherein the pair of elongated probes are pivotably mounted to the stinger mounting frame, wherein the actuator assembly is comprised of:

probe actuators mounted on the stinger mounting frame;

linkages connecting the probes and probe actuators; and

wherein the probe actuators and linkages are positioned to opposed sides of the plant receiving receptacle.

3. An expandible stinger planter as defined by claim 2 wherein the linkages include bellcrank and idler links pivotably mounted to the stinger mounting frame and having ends thereof connected to the probe actuators and probes.

4. An expandable stinger planter as defined by claim 2 wherein the probe actuators are comprised of ram cylinders mounted in substantial alignment with the probes.

5. An expandable stinger planter as defined by claim 1 wherein the stinger mounting frame includes an excavator boom mounting bracket with attachment points spaced to accommodate an excavator boom end.

6. An expandable stinger planter as defined by claim 5 wherein the stinger mounting frame and excavator boom mounting bracket are integral.

7. An expandable stinger planter as defined by claim 1, further comprising at least one packer member operably mounted to the stinger mounting frame and positioned adjacent the probes.

8. An expandable stinger planter as defined by claim 7 further comprising a packer biasing member normally urging the packer member toward the probe bottom ends.

9. An expandable stinger planter as defined by claim 7 wherein the packer member is comprised of a packer wheel, and further comprising a packer wheel biasing member normally urging the packer wheel toward the probe bottom ends.

10. An expandable stinger planter as defined by claim 7, further comprising a packer positioner mounting the packer to the stinger mounting frame for selective motion toward and away from the probe bottom ends.

11. An expandable stinger planter as defined by claim 7, further comprising:

a packer positioner mounting the packer to the stinger mounting frame for selective motion toward and away from the probe bottom ends; and

a packer biasing member mounted to the packer positioner and packer, yieldably urging the packer member toward the probe bottom ends.

12. An expandable stinger planter as defined by claim 1, wherein the probes include a length dimension and are joined for pivotal movement at a probe pivot axis that is located approximately mid-way along the length dimension.

13. An expandable stinger planter as defined by claim 1 wherein the array is at least substantially circular.

14. An expandable stinger planter as defined by claim 1, wherein the magazine is comprised of concentric, at least substantially circular groups of individual plant holders.

15. An expandable stinger planter as defined by claim 14 further comprising a plant release station for each group of plant holders, and a rotary drive operable to rotate each group about an axis past the plant release station.

16. An expandable stinger planter, comprising:

a vehicle including a movable boom extending to a boom end;

a stinger mounting frame mounted to the boom end for movement responsive to movement of the boom;

a stinger comprised of a pair of elongated probes mounted to the stinger mounting frame and extending to bottom ends configured for ground penetration;

an actuator assembly on the stinger mounting frame and connected to at least one of the probes to shift the bottom ends relative to one another between a closed position wherein the bottom ends are at least substantially closed together, and an open position wherein the bottom ends are opened and form a plant discharge opening;

an internal plant receiving receptacle within the probes that is open to the plant discharge opening;

a plant magazine on the stinger mounting frame configured to receive and organize a plurality of plants in a prescribed array;

wherein the plant magazine includes at least one plant release station, through which successive plants may be discharged into the plant receiving receptacle; and

a plant feeder adjacent the plant magazine and operable to move a plant in the plant magazine to the plant release station;

wherein the plant magazine and plant release station are positioned in relation to the plant receiving receptacle such that a plant moved to the plant release station may drop into the plant receiving receptacle, to be discharged from the plant receiving receptacle through the plant discharge opening.

17. An expandable stinger planter as defined by claim 16, wherein the pair of elongated probes are pivotably mounted to the stinger mounting frame, wherein the actuator assembly is comprised of:

probe actuators mounted on the stinger mounting frame;

linkages connecting the probes and probe actuators; and

wherein the probe actuators and linkages are positioned to opposed sides of the plant receiving receptacle.

18. An expandible stinger planter as defined by claim 17 wherein the linkages include bellcrank and idler links pivotably mounted to the stinger mounting frame and having ends thereof connected to the probe actuators and probes.

19. An expandable stinger planter as defined by claim 17 wherein the probe actuators are comprised of ram cylinders mounted in substantial alignment with the probes.

20. An expandable stinger planter as defined by claim 16 wherein the stinger mounting frame includes an excavator boom mounting bracket with attachment points spaced to accommodate an excavator boom end.

21. An expandable stinger planter as defined by claim 20 wherein the stinger mounting frame and excavator boom mounting bracket are integral.

22. An expandable stinger planter as defined by claim 16, further comprising at least one packer member operably mounted to the stinger mounting frame and positioned adjacent the probes.

23. An expandable stinger planter as defined by claim 22 further comprising a packer biasing member normally urging the packer member toward the probe bottom ends.

24. An expandable stinger planter as defined by claim 22 wherein

the packer member is comprised of a packer wheel, and further comprising a packer wheel biasing member normally urging the packer wheel toward the probe bottom ends.

25. An expandable stinger planter as defined by claim 22, further comprising a packer positioner mounting the packer to the stinger mounting frame for selective motion toward and away from the probe bottom ends.

26. An expandable stinger planter as defined by claim 22, further comprising:

a packer positioner mounting the packer to the stinger mounting frame for selective motion toward and away from the probe bottom ends; and

a packer biasing member mounted to the packer positioner and packer, yieldably urging the packer member toward the probe bottom ends.

27. An expandable stinger planter as defined by claim 16, wherein the array is at least substantially circular.

28. An expandable stinger planter as defined by claim 16, wherein the magazine is comprised of concentric, at least substantially circular groups of individual plant holders.

29. An expandable stinger planter as defined by claim 28 further comprising a plant release station for each group of plant holders, and a rotary drive operable to rotate each group about an axis past the plant release station.

30. An expandable stinger planter, comprising:

a stinger mounting frame;

a stinger comprised of a pair of elongated probes mounted to the stinger mounting frame and extending to bottom ends configured for ground penetration;

an actuator assembly on the stinger mounting frame and connected to at least one of the probes to shift the bottom ends relative to one another between a closed position wherein the bottom ends are at least substantially closed together, and an open position wherein the bottom ends are opened and form a plant discharge opening;

an internal plant receiving receptacle within the probes that is open to the plant discharge opening; and

at least one packer member operably mounted to the stinger mounting frame and positioned adjacent the probes.

31. The expandable stinger planter of claim 30 further comprising a packer positioner mounting the packer to the stinger mounting frame for selective motion toward and away from the probe bottom ends; and

a packer biasing member mounted to the packer positioner and packer, yieldably urging the packer member toward the probe bottom ends.

32. The expandable stinger planter of claim 30, further comprising a packer positioner mounting the packer to the stinger mounting frame for selective motion toward and away from the probe bottom ends.

33. The expandable stinger planter of claim 30, further comprising a packer biasing member, yieldably urging the packer member toward the probe bottom ends.

34. The expandable stinger planter of claim 33 wherein the packer biasing member is comprised of an adjustable pneumatic spring.

35. An expandable stinger planter, comprising:

a vehicle including a movable boom extending to a boom end;

a stinger mounting frame mounted to the boom end for movement responsive to movement of the boom;

a stinger comprised of a pair of elongated probes mounted to the stinger mounting frame and extending to bottom ends configured for ground penetration;

an actuator assembly on the stinger mounting frame and connected to at least one of the probes to shift the bottom ends relative to one another between a closed position wherein the bottom ends are at least substantially closed together, and an open position wherein the bottom ends are opened and form a plant discharge opening;

an internal plant receiving receptacle within the probes that is open to the plant discharge opening; and

at least one packer member operably mounted to the stinger mounting frame and positioned adjacent the probes.

36. A planting process, comprising the steps of:

mounting a stinger mounting frame to a boom of a boom type excavator;

wherein a stinger is mounted to the stinger mounting frame and is comprised of a pair of elongated probes extending to bottom ends that are movable between an open position wherein the bottom ends are spaced apart to form a plant discharge opening, and a closed position wherein the probe ends are closed together;

providing a plant magazine on the stinger mounting frame;

placing plants in the magazine;

moving a selected plant in the magazine to a plant release station;

moving the selected plant from the plant release station to a position between the probes in the closed position;

operating the boom to drive the bottom ends of the probes into a planting media;

moving the probes to the open position; and

lifting the probes from the planting media while leaving the plant in the planting media.

37. The planting process of claim 36 comprising the further step of packing the planting media about the plant.

38. The planting process of claim 36 wherein the step of moving the selected plant from the plant release station to a position between the probes in the closed position is accomplished by dropping the plant from a location above the position between the probes.